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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/632,222

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Gerard Chauvel

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06/25/2009

TEXAS INSTRUMENTS INCORPORATED

P O BOX 655474, M/S 3999

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EXAMINER

MOLL, JESSE R

ART UNIT

PAPER NUMBER

2181

NOTIFICATION DATE

DELIVERY MODE

06/25/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

Office Action Summary	Application No. 10/632,222	Applicant(s) CHAUVEL ET AL.	
	Examiner JESSE R. MOLL	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 35,37-39,41 and 42 is/are rejected.
- 7) ☒ Claim(s) 36 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8 May 2009 has been entered.

Claim Objections

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 32-39 have been renumbered 35-42.

3. Claim 35 is objected to because of the following informalities: In claim 1, bullet iii, "first instruction;" should be "first instruction bytecode;". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 35, 37-39, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chennupaty (U.S. Patent No. 6,014,735) in view of Sexton et al. (U.S. Patent No. 6,775,763 B2) herein referred to as Sexton.

Regarding claim 35, Chennupaty discloses A system comprising: A. a memory containing instructions (see col. 5, lines 9-10); a machine coupled to the memory and executing instruction bytecodes obtained from the memory (see col. 5, lines 9-11), the machine including: i. a program counter containing an address of a first instruction bytecode to be decoded (Note that the system must keep track of the position of the current instruction. Whatever keeps track of this is considered to be the program counter); ii. a program counter calculator coupled to the program counter and providing the program counter with the address of the first instruction bytecode to be decoded (inherently existing in a computer system since the PC needs to be updated in order to fetch new instructions), the program counter calculator including a match input (prefix and escape detector 320; see fig. 4, col. 5, lines 30-40; Note that if the first byte is a valid prefix, the first byte is ignored by the decoder, and the second (or third) byte is sent to the appropriate decoding logic in effect causing the program counter (pointer to

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the current instruction) to skip the prefix bytes and point to the instruction being decoded.); iii. a register (Instruction buffer 310; see fig. 3) containing instruction bytecodes including the first instruction bytecode (In-In+7; see fig. 4) and a second instruction bytecode (Ik-Ik+7; see fig. 4) following the first instruction bytecode; iv. decode logic (regular one byte decoder 430; see fig. 4; col. 6, lines 20-30) coupled to the register (see fig. 4) and to the program counter calculator and decoding the first instruction bytecode from the register (see fig. 4 regarding the connection of In-In+7 to decoder 430); and v. pre-decode logic (Regular Prefix decoder 432 and comparator ESC2B) having a match output connected with the match input of the program counter calculator (Inherently, the Program counter must be updated if the second byte is a second escape character) and being coupled to the second instruction bytecode in the register (see fig. 4), the pre-decode logic decoding the second instruction bytecode while the decode logic is decoding the first instruction bytecode (see fig. 4) and selectively providing a match signal to the program counter calculator to increment the program counter past the second instruction bytecode (as stated above, inherently, the program counter must be incremented past the escape characters, the prefix and the current instruction to the next instruction).

Chennupaty does not expressly disclose a main processor unit coupled to the memory and executing instructions obtained from the memory; and that the machine is a stack machine.

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Sexton teaches a main processor unit (native instruction processor) coupled to the memory and executing instructions obtained from the memory; and that the machine is a stack machine (Java coprocessor; see col. 2, lines 18-30)

At the time of the invention, it would have been obvious for one of ordinary skill in the art to have modified the invention of Chennupaty by using a main processor unit sharing memory with a stack machine, as taught by Sexton, In order to support Java instructions in hardware while being able to execute a more efficient native instruction set.

6. Regarding claim 37, Chennupaty further discloses the register has instruction sections (bytes), each section containing an instruction bytecode, and the number of sections is greater than the number of instruction bytecodes in the longest instruction (see col. 5, lines 10-11 regarding the register being an instruction cache; clearly a cache will have multiple instructions).

7. Regarding claim 38, Chennupaty further discloses the pre-decode logic decodes a prefix in the second instruction bytecode (since it is a regular prefix decoder; see above regarding claim 32)

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Claims 39, 41 and 42 recite equivalent limitations as claims 32, 34 and 35 and are rejected as the method of operating the system of Chennupaty / Sexton.

Allowable Subject Matter

8. Claims 36 and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or fairly suggest comparator logic with inputs coupled with one instruction section and an output connected to multiplexer circuitry which has a match output connected to the program counter calculator in combination with the limitations of the independent claims.

Response to Arguments

10. Applicant's arguments with respect to claims 35, 37-39 and 41-42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE R. MOLL whose telephone number is (571)272-2703. The examiner can normally be reached on M-F 10:00 am - 6:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571)272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher B Shin/
Primary Examiner, Art Unit 2181

/J. R. M./
Examiner, Art Unit 2181